

What is claimed is:

1. A protein having the amino acid sequence composed of 268 amino acids represented by the 1st to 268th amino acids of SEQ ID NO: 2; or a protein having an amino acid sequence derived from the amino acid sequence represented by SEQ ID NO: 2 by deletion, substitution or addition of one to several amino acids and having the same property as that of the protein having the amino acid sequence represented by the 1st to 268th amino acids of SEQ ID NO: 2; or a modified derivative thereof.

2. A nucleotide sequence represented by the 151st to 954th bases of SEQ ID NO: 1; a nucleotide sequence encoding the amino acid sequence represented by the 1st to 268th amino acids of SEQ ID NO: 2; or a nucleotide sequence hybridizable with a nucleotide sequence which is complementary to the above nucleotide sequence under stringent conditions and encoding a protein having the same property as that of the protein having the amino acid sequence represented by the 1st to 268th amino acids of SEQ ID NO: 2.

3. A protein having the amino acid sequence composed of 270 amino acids represented by the 1st to 270th amino acids of SEQ ID NO: 4; or a protein having an amino acid sequence derived from the amino acid sequence represented by the 1st to 270th amino acids of SEQ ID NO: 4

by deletion, substitution or addition of one to several amino acids and having the same property as that of the protein having the amino acid sequence represented by the 1st to 270th amino acids of SEQ ID NO: 4; or a modified derivative thereof.

4. A nucleotide sequence represented by the 151st to 960th bases of SEQ ID NO: 3; a nucleotide sequence encoding the amino acid sequence represented by the 1st to 270th amino acids of SEQ ID NO: 4; or a nucleotide sequence hybridizable with a nucleotide sequence which is complementary to the above nucleotide sequence under stringent conditions and encoding a protein having the same property as that of the protein having the amino acid sequence represented by the 1st to 270th amino acids of SEQ ID NO: 4.

5. A protein having the amino acid sequence composed of 257 amino acids represented by the 1st to 257th amino acids of SEQ ID NO: 6; or a protein having an amino acid sequence derived from the amino acid sequence represented by the 1st to 257th amino acids of SEQ ID NO: 6 by deletion, substitution or addition of one to several amino acids and having the same property as that of the protein having the amino acid sequence represented by the 1st to 257th amino acids of SEQ ID NO: 6; or a modified derivative thereof.

6. A nucleotide sequence represented by the 151st to 921st bases of SEQ ID NO: 5; a nucleotide sequence encoding the amino acid sequence represented by the 1st to 257th amino acids of SEQ ID NO: 6; or a nucleotide sequence hybridizable with a nucleotide sequence which is complementary to the above nucleotide sequence under stringent conditions and encoding a protein having the same property as that of the protein having the amino acid sequence represented by the 1st to 257th amino acids of SEQ ID NO: 6.

7. A protein having the amino acid sequence composed of 97 amino acids represented by the 1st to 97th amino acids of SEQ ID NO: 8; or a protein having an amino acid sequence derived from the amino acid sequence represented by the 1st to 97th amino acids of SEQ ID NO: 8 by deletion, substitution or addition of one to several amino acids and having the same property as that of the protein having the amino acid sequence represented by the 1st to 97th amino acids of SEQ ID NO: 8; or a modified derivative thereof.

8. A nucleotide sequence represented by the 151st to 441st bases of SEQ ID NO: 7; a nucleotide sequence encoding the amino acid sequence represented by the 1st to 97th amino acids of SEQ ID NO: 8; or a nucleotide sequence hybridizable with a nucleotide sequence which is

complementary to the above nucleotide sequence under stringent conditions and encoding a protein having the same property as that of the protein having the amino acid sequence represented by the 1st to 97th amino acids of SEQ ID NO: 8.

9. A protein having the amino acid sequence composed of 158 amino acids represented by the 1st to 158th amino acids of SEQ ID NO: 10; or a protein having an amino acid sequence derived from the amino acid sequence represented by the 1st to 158th amino acids of SEQ ID NO: 10 by deletion, substitution or addition of one to several amino acids and having the same property as that of the protein having the amino acid sequence represented by the 1st to 158th amino acids of SEQ ID NO: 10; or a modified derivative thereof.

10. A nucleotide sequence represented by the 151st to 624th bases of SEQ ID NO: 9; a nucleotide sequence encoding the amino acid sequence represented by the 1st to 158th amino acids of SEQ ID NO: 10; or a nucleotide sequence hybridizable with a nucleotide sequence which is complementary to the above nucleotide sequence under stringent conditions and encoding a protein having the same property as that of the protein having the amino acid sequence represented by the 1st to 158th amino acids of SEQ ID NO: 10.

11. A protein having the amino acid sequence composed of 82 amino acids represented by the 1st to 82nd amino acids of SEQ ID NO: 12; or a protein having an amino acid sequence derived from the amino acid sequence represented by the 1st to 82nd amino acids of SEQ ID NO: 12 by deletion, substitution or addition of one to several amino acids and having the same property as that of the protein having the amino acid sequence represented by the 1st to 82nd amino acids of SEQ ID NO: 12; or a modified derivative thereof.

12. A nucleotide sequence represented by the 151th to 396th bases of SEQ ID NO: 11; a nucleotide sequence encoding the amino acid sequence represented by the 1st to 82nd amino acids of SEQ ID NO: 12; or a nucleotide sequence hybridizable with a nucleotide sequence which is complementary to the above nucleotide sequence under stringent conditions and encoding a protein having the same property as that of the protein having the amino acid sequence represented by the 1st to 82th amino acids of SEQ ID NO: 12.

13. A protein having the amino acid sequence composed of 185 amino acids represented by the 1st to 185th amino acids of SEQ ID NO: 14; or a protein having an amino acid sequence derived from the amino acid sequence represented by the 1st to 185th amino acids of SEQ ID NO:

14 by deletion, substitution or addition of one to several amino acids and having the same property as that of the protein having the amino acid sequence represented by the 1st to 185th amino acids of SEQ ID NO: 14; or a modified  
5 derivative thereof.

14. A nucleotide sequence represented by the 151st to 705th bases of SEQ ID NO: 13; a nucleotide sequence encoding the amino acid sequence represented by the 1st to 185th amino acids of SEQ ID NO: 14; or a  
10 nucleotide sequence hybridizable with a nucleotide sequence which is complementary to the above nucleotide sequence under stringent conditions and encoding a protein having the same property as that of the protein having the amino acid sequence represented by the 1st to 185th amino acids  
15 of SEQ ID NO: 14.

15. A protein having the amino acid sequence composed of 80 amino acids represented by the 1st to 80th amino acids of SEQ ID NO: 16; or a protein having an amino acid sequence derived from the amino acid sequence  
20 represented by the 1st to 80th amino acids of SEQ ID NO: 16 by deletion, substitution or addition of one to several amino acids and having the same property as that of the protein having the amino acid sequence represented by the 1st to 80th amino acids of SEQ ID NO: 16; or a modified  
25 derivative thereof.

16. A nucleotide sequence represented by the 151st to 390th bases of SEQ ID NO: 15; a nucleotide sequence encoding the amino acid sequence represented by the 1st to 80th amino acids of SEQ ID NO: 16; or a  
5 nucleotide sequence hybridizable with a nucleotide sequence which is complementary to the above nucleotide sequence under stringent conditions and encoding a protein having the same property as that of the protein having the amino acid sequence represented by the 1st to 80th amino acids of  
10 SEQ ID NO: 16.

17. A protein having the amino acid sequence composed of 253 amino acids represented by the 1st to 253rd amino acids of SEQ ID NO: 18; or a protein having an amino acid sequence derived from the amino acid sequence  
15 represented by the 1st to 253rd amino acids of SEQ ID NO: 18 by deletion, substitution or addition of one to several amino acids and having the same property as that of the protein having the amino acid sequence represented by the 1st to 253rd amino acids of SEQ ID NO: 18; or a modified  
20 derivative thereof.

18. A nucleotide sequence represented by the 151st to 909th bases of SEQ ID NO: 17; a nucleotide sequence encoding the amino acid sequence represented by the 1st to 253rd amino acids of SEQ ID NO: 18; or a  
25 nucleotide sequence hybridizable with a nucleotide sequence

which is complementary to the above nucleotide sequence under stringent conditions and encoding a protein having the same property as that of the protein having the amino acid sequence represented by the 1st to 253rd amino acids of SEQ ID NO: 18.

19. A protein having the amino acid sequence composed of 34 amino acids represented by the -49th to -16th amino acids of SEQ ID NO: 2; or a protein having an amino acid sequence derived from the amino acid sequence represented by the -49th to -16th amino acids of SEQ ID NO: 2 by deletion, substitution or addition of one to several amino acids and having the same property as that of the protein having the amino acid sequence represented by the -49th to -16th amino acids of SEQ ID NO: 2; or a modified derivative or fragment thereof.

20. A nucleotide sequence represented by the 4th to 105th bases of SEQ ID NO: 1; a nucleotide sequence encoding the amino acid sequence represented by the -49th to -16th amino acids of SEQ ID NO: 2; or a nucleotide sequence hybridizable with a nucleotide sequence which is complementary to the above nucleotide sequence under stringent conditions and encoding a protein having the same property as that of the protein having the amino acid sequence represented by the -49th to -16th amino acids of SEQ ID NO: 2; or a fragment thereof.



21. A protein having the amino acid sequence composed of 15 amino acids represented by the -15th to -1st amino acids of SEQ ID NO: 2; or a protein having an amino acid sequence derived from the amino acid sequence represented by the -15th to -1st amino acids of SEQ ID NO: 2 by deletion, substitution or addition of one to several amino acids and having the same property as that of the protein having the amino acid sequence represented by the -15th to -1st amino acids of SEQ ID NO: 2; or a modified derivative or fragment thereof.

22. A nucleotide sequence represented by the 106th to 150th bases of SEQ ID NO: 1; a nucleotide sequence encoding the amino acid sequence represented by the -15th to -1st amino acids of SEQ ID NO: 2; or a nucleotide sequence hybridizable with a nucleotide sequence which is complementary to the above nucleotide sequence under stringent conditions and encoding a protein having the same property as that of the protein having the amino acid sequence represented by the -15th to -1st amino acids of SEQ ID NO: 2; or a fragment thereof.

23. A protein having the amino acid sequence composed of 259 amino acids represented by the 1st to 259th amino acids of SEQ ID NO: 20; or a protein having an amino acid sequence derived from the amino acid sequence represented by the 1st to 259th amino acids of SEQ ID NO:

20 by deletion, substitution or addition of one to several amino acids and having the same property as that of the protein having the amino acid sequence represented by the 1st to 259th amino acids of SEQ ID NO: 20; or a modified derivative thereof.

24. A nucleotide sequence represented by the 227th to 1003rd bases of SEQ ID NO: 19; a nucleotide sequence encoding the amino acid sequence represented by the 1st to 259th amino acids of SEQ ID NO: 20; or a nucleotide sequence hybridizable with a nucleotide sequence which is complementary to the above nucleotide sequence under stringent conditions and encoding a protein having the same property as that of the protein having the amino acid sequence represented by the 1st to 259th amino acids of SEQ ID NO: 20.

25. A protein having the amino acid sequence composed of 34 amino acids represented by the -49th to -16th amino acids of SEQ ID NO: 20; or a protein having an amino acid sequence derived from the amino acid sequence represented by the -49th to -16th amino acids of SEQ ID NO: 20 by deletion, substitution or addition of one to several amino acids and having the same property as that of the protein having the amino acid sequence represented by the -49th to -16th amino acids of SEQ ID NO: 20; or a modified derivative or fragment thereof.

26. A nucleotide sequence represented by the 80th to 181st bases of SEQ ID NO: 19; a nucleotide sequence encoding the amino acid sequence represented by the -49th to -16th amino acids of SEQ ID NO: 20; or a nucleotide sequence hybridizable with a nucleotide sequence which is complementary to the above nucleotide sequence under stringent conditions and encoding a protein having the same property as that of the protein having the amino acid sequence represented by the -49th to -16th amino acids of SEQ ID NO: 20; or a fragment thereof.

27. A protein having the amino acid sequence composed of 15 amino acids represented by the -15th to -1st amino acids of SEQ ID NO: 20; or a protein having an amino acid sequence derived from the amino acid sequence represented by the -15th to -1st amino acids of SEQ ID NO: 20 by deletion, substitution or addition of one to several amino acids and having the same property as that of the protein having the amino acid sequence represented by the -15th to -1st amino acids of SEQ ID NO: 20; or a modified derivative or fragment thereof.

28. A nucleotide sequence represented by the 182th to 226th bases of SEQ ID NO: 19; a nucleotide sequence encoding the amino acid sequence represented by the -15th to -1st amino acids of SEQ ID NO: 20; or a nucleotide sequence hybridizable with a nucleotide sequence

which is complementary to the above nucleotide sequence under stringent conditions and encoding a protein having the same property as that of the protein having the amino acid sequence represented by the -15th to -1st amino acids of SEQ ID NO: 20; or a fragment thereof.

29. A protein having the amino acid sequence composed of 317 amino acids represented by the -49th to 268th amino acids of SEQ ID NO: 2; or a protein having an amino acid sequence derived from the amino acid sequence represented by the -49th to 268th amino acids of SEQ ID NO: 2 by deletion, substitution or addition of one to several amino acids and having the same property as that of the protein having the amino acid sequence represented by the -49th to 268th amino acids of SEQ ID NO: 2; or a modified derivative thereof.

30. A nucleotide sequence represented by the 4th to 954th bases of SEQ ID NO: 1; a nucleotide sequence encoding the amino acid sequence represented by the -49th to 268th amino acids of SEQ ID NO: 2; or a nucleotide sequence hybridizable with a nucleotide sequence which is complementary to the above nucleotide sequence under stringent conditions and encoding a protein having the same property as that of the protein having the amino acid sequence represented by the -49th to 268th amino acids of SEQ ID NO: 2.

31. A protein having the amino acid sequence composed of 283 amino acids represented by the -15th to 268th amino acids of SEQ ID NO: 2; or a protein having an amino acid sequence derived from the amino acid sequence represented by the -15th to 268th amino acids of SEQ ID NO: 2 by deletion, substitution or addition of one to several amino acids and having the same property as that of the protein having the amino acid sequence represented by the -15th to 268th amino acids of SEQ ID NO: 2; or a modified derivative thereof.

32. A nucleotide sequence represented by the 106th to 954th bases of SEQ ID NO: 1; a nucleotide sequence encoding the amino acid sequence represented by the -15th to 268th amino acids of SEQ ID NO: 2; or a nucleotide sequence hybridizable with a nucleotide sequence which is complementary to the above nucleotide sequence under stringent conditions and encoding a protein having the same property as that of the protein having the amino acid sequence represented by the -15th to 268th amino acids of SEQ ID NO: 2.

33. A protein having the amino acid sequence composed of 319 amino acids represented by the -49th to 270th amino acids of SEQ ID NO: 4; or a protein having an amino acid sequence derived from the amino acid sequence represented by the -49th to 270th amino acids of SEQ ID NO:

4 by deletion, substitution or addition of one to several amino acids and having the same property as that of the protein having the amino acid sequence represented by the -49th to 270th amino acids of SEQ ID NO: 4; or a modified derivative thereof.

34. A nucleotide sequence represented by the 4th to 960th bases of SEQ ID NO: 3; a nucleotide sequence encoding the amino acid sequence represented by the -49th to 270th amino acids of SEQ ID NO: 4; or a nucleotide sequence hybridizable with a nucleotide sequence which is complementary to the above nucleotide sequence under stringent conditions and encoding a protein having the same property as that of the protein having the amino acid sequence represented by the -49th to 270th amino acids of SEQ ID NO: 4.

35. A protein having the amino acid sequence composed of 285 amino acids represented by the -15th to 270th amino acids of SEQ ID NO: 4; or a protein having an amino acid sequence derived from the amino acid sequence represented by the -15th to 270th amino acids of SEQ ID NO: 4 by deletion, substitution or addition of one to several amino acids and having the same property as that of the protein having the amino acid sequence represented by the -15th to 270th amino acids of SEQ ID NO: 4; or a modified derivative thereof.

36. A nucleotide sequence represented by the 106th to 960th bases of SEQ ID NO: 3; a nucleotide sequence encoding the amino acid sequence represented by the -15th to 270th amino acids of SEQ ID NO: 4; or a nucleotide sequence hybridizable with a nucleotide sequence which is complementary to the above nucleotide sequence under stringent conditions and encoding a protein having the same property as that of the protein having the amino acid sequence represented by the -15th to 270th amino acids of SEQ ID NO: 4.

37. A protein having the amino acid sequence composed of 306 amino acids represented by the -49th to 257th amino acids of SEQ ID NO: 6; or a protein having an amino acid sequence derived from the amino acid sequence represented by the -49th to 257th amino acids of SEQ ID NO: 6 by deletion, substitution or addition of one to several amino acids and having the same property as that of the protein having the amino acid sequence represented by the -49th to 257th amino acids of SEQ ID NO: 6; or a modified derivative thereof.

38. A nucleotide sequence represented by the 4th to 921th bases of SEQ ID NO: 5; a nucleotide sequence encoding the amino acid sequence represented by the -49th to 257th amino acids of SEQ ID NO: 6; or a nucleotide sequence hybridizable with a nucleotide sequence which is

complementary to the above nucleotide sequence under stringent conditions and encoding a protein having the same property as that of the protein having the amino acid sequence represented by the -49th to 257th amino acids of  
5 SEQ ID NO: 6.

39. A protein having the amino acid sequence composed of 272 amino acids represented by the -15th to 257th amino acids of SEQ ID NO: 6; or a protein having an amino acid sequence derived from the amino acid sequence  
10 represented by the -15th to 257th amino acids of SEQ ID NO: 6 by deletion, substitution or addition of one to several amino acids and having the same property as that of the protein having the amino acid sequence represented by the -15th to 257th amino acids of SEQ ID NO: 6; or a modified  
15 derivative thereof.

40. A nucleotide sequence represented by the 106th to 921th bases of SEQ ID NO: 5; a nucleotide sequence encoding the amino acid sequence represented by the -15th to 257th amino acids of SEQ ID NO: 6; or a nucleotide  
20 sequence hybridizable with a nucleotide sequence which is complementary to the above nucleotide sequence under stringent conditions and encoding a protein having the same property as that of the protein having the amino acid sequence represented by the -15th to 257th amino acids of  
25 SEQ ID NO: 6.



41. A protein having the amino acid sequence composed of 308 amino acids represented by the -49th to 259th amino acids of SEQ ID NO: 20; or a protein having an amino acid sequence derived from the amino acid sequence represented by the -49th to 259th amino acids of SEQ ID NO: 20 by deletion, substitution or addition of one to several amino acids and having the same property as that of the protein having the amino acid sequence represented by the -49th to 259th amino acids of SEQ ID NO: 20; or a modified derivative thereof.

42. A nucleotide sequence represented by the 80th to 1003rd bases of SEQ ID NO: 19; a nucleotide sequence encoding the amino acid sequence represented by the -49th to 259th amino acids of SEQ ID NO: 20; or a nucleotide sequence hybridizable with a nucleotide sequence which is complementary to the above nucleotide sequence under stringent conditions and encoding a protein having the same property as that of the protein having the amino acid sequence represented by the -49th to 259th amino acids of SEQ ID NO: 20.

43. A protein having the amino acid sequence composed of 274 amino acids represented by the -15th to 259th amino acids of SEQ ID NO: 20; or a protein having an amino acid sequence derived from the amino acid sequence represented by the -15th to 259th amino acids of SEQ ID NO:

20 by deletion, substitution or addition of one to several amino acids and having the same property as that of the protein having the amino acid sequence represented by the -15th to 259th amino acids of SEQ ID NO: 20; or a modified derivative thereof.

44. A nucleotide sequence represented by the 182nd to 1003rd bases of SEQ ID NO: 19; a nucleotide sequence encoding the amino acid sequence represented by the -15th to 259th amino acids of SEQ ID NO: 20; or a nucleotide sequence hybridizable with a nucleotide sequence which is complementary to the above nucleotide sequence under stringent conditions and encoding a protein having the same property as that of the protein having the amino acid sequence represented by the -15th to 259th amino acids of SEQ ID NO: 20.

45. A nucleotide sequence represented by SEQ ID NO: 1; or a nucleotide sequence hybridizable with a nucleotide sequence which is complementary to the above nucleotide sequence under stringent conditions and encoding a protein having the same property as that of the protein encoded by the nucleotide sequence represented by SEQ ID NO: 1.

46. A nucleotide sequence represented by SEQ ID NO: 3; or a nucleotide sequence hybridizable with a nucleotide sequence which is complementary to the above

nucleotide sequence under stringent conditions and encoding a protein having the same property as that of the protein encoded by the nucleotide sequence represented by SEQ ID NO: 3.

5                   47. A nucleotide sequence represented by SEQ ID NO: 5; or a nucleotide sequence hybridizable with a nucleotide sequence which is complementary to the above nucleotide sequence under stringent conditions and encoding a protein having the same property as that of the protein  
10                   encoded by the nucleotide sequence represented by SEQ ID NO: 5.

                  48. A nucleotide sequence represented by SEQ ID NO: 7; or a nucleotide sequence hybridizable with a nucleotide sequence which is complementary to the above  
15                   nucleotide sequence under stringent conditions and encoding a protein having the same property as that of the protein encoded by the nucleotide sequence represented by SEQ ID  
NO: 7.

                  49. A nucleotide sequence represented by SEQ ID  
20                   NO: 9; or a nucleotide sequence hybridizable with a nucleotide sequence which is complementary to the above nucleotide sequence under stringent conditions and encoding a protein having the same property as that of the protein encoded by the nucleotide sequence represented by SEQ ID  
25                   NO: 9.

50. A nucleotide sequence represented by SEQ ID  
NO: 11; or a nucleotide sequence hybridizable with a  
nucleotide sequence which is complementary to the above  
nucleotide sequence under stringent conditions and encoding  
5 a protein having the same property as that of the protein  
encoded by the nucleotide sequence represented by SEQ ID  
NO: 11.

51. A nucleotide sequence represented by SEQ ID  
NO: 13; or a nucleotide sequence hybridizable with a  
10 nucleotide sequence which is complementary to the above  
nucleotide sequence under stringent conditions and encoding  
a protein having the same property as that of the protein  
encoded by the nucleotide sequence represented by SEQ ID  
NO: 13.

52. A nucleotide sequence represented by SEQ ID  
NO: 15; or a nucleotide sequence hybridizable with a  
nucleotide sequence which is complementary to the above  
nucleotide sequence under stringent conditions and encoding  
15 a protein having the same property as that of the protein  
20 encoded by the nucleotide sequence represented by SEQ ID  
NO: 15.

53. A nucleotide sequence represented by SEQ ID  
NO: 17; or a nucleotide sequence hybridizable with a  
nucleotide sequence which is complementary to the above  
25 nucleotide sequence under stringent conditions and encoding

a protein having the same property as that of the protein encoded by the nucleotide sequence represented by SEQ ID NO: 17.

5 54. A nucleotide sequence represented by SEQ ID NO: 19; or a nucleotide sequence hybridizable with a nucleotide sequence which is complementary to the above nucleotide sequence under stringent conditions and encoding a protein having the same property as that of the protein encoded by the nucleotide sequence represented by SEQ ID  
10 NO: 19.

*Sub B1* 55. A vector comprising the nucleotide sequence according to any one of claims 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24, 26, 28, 30, 32, 34, 36, 38, 40, 42 and 44-54.

15 56. Transformed cells having the nucleotide sequence according to any one of claims 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24, 26, 28, 30, 32, 34, 36, 38, 40, 42 and 44-54 in an expressible state.

20 57. A process for producing a protein which comprises culturing cells transformed with the nucleotide sequence according to any one of claims 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 30, 32, 34, 36, 38, 40 and 45-53, and collecting hBSSP4 produced.

25 58. A process for producing a protein which comprises culturing cells transformed with the nucleotide

sequence according to any one of claims 24, 26, 28, 42, 44 or 54, and collecting mBSSP4 produced.

~~SubB2~~ 59. The process according to claim 57 or 58, wherein the cells are *E. coli* cells, animal cells or insect cells.

60. A non-human transgenic animal whose expression level of BSSP4 gene has been altered.

61. The non-human transgenic animal according to claim 60, wherein BSSP4 gene is cDNA, genomic DNA or synthetic DNA encoding BSSP4.

62. The non-human transgenic animal according to claim 60, wherein the expression level has been altered by mutating a gene expression regulatory site.

63. A knockout mouse whose mBSSP4 gene function is deficient.

~~SubB3~~ 64. An antibody against the protein according to any one of claims 1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21, 23, 25, 27, 29, 31, 33, 35, 37, 39, 41 and 43 or a fragment thereof.

65. The antibody according to claim 64 which is a polyclonal antibody, a monoclonal antibody or a peptide antibody.

66. A process for producing a monoclonal antibody against the protein according to any one of claims 1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21, 23, 25, 27, 29, 31,

33, 35, 37, 39, 41 and 43 or a fragment thereof which comprises administering the protein according to any one of claims 1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21, 23, 25, 27, 29, 31, 33, 35, 37, 39, 41 and 43 or a fragment thereof to a warm-blooded animal other than a human being, selecting the animal whose antibody titer is recognized, collecting its spleen or lymph node, fusing the antibody producing cells contained therein with myeloma cells to prepare a monoclonal antibody producing hybridoma.

10 ~~Sub B4~~ 67. A method for determining the protein according to any one of claims 1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21, 23, 25, 27, 29, 31, 33, 35, 37, 39, 41 and 43 or a fragment thereof in a specimen which is based on immunological binding of an antibody against the protein or  
15 a fragment thereof to the protein or a fragment thereof.

68. A method for determining hBSSP4 or a fragment thereof in a specimen which comprises reacting a monoclonal antibody or a polyclonal antibody against the protein according to any one of claims 1, 3, 5, 7, 9, 11,  
20 13, 15, 17, 19, 21, 23, 31, 33, 35, 37 and 39 or a fragment thereof and a labeled antibody with hBSSP4 or a fragment thereof in the specimen to detect a sandwich complex produced.

69. A method for determining hBSSP4 or a  
25 fragment thereof in a specimen which comprises reacting a

*Sub B* monoclonal antibody or a polyclonal antibody against the protein according to any one of claims 1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21, 29, 31, 33, 35, 37 and 39 or a fragment thereof with labeled hBBSP4 and hBSSP4 or a fragment thereof in the specimen competitively to detect an amount of hBSSP4 or a fragment thereof in the specimen based on an amount of the labeled hBBSP4 reacted with the antibody.

70. The method according to any one of claims 67-69, wherein the specimen is a body fluid.

10 71. A diagnostic marker for diseases in tissues comprising the protein according to any one of claims 1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21, 23, 25, 27, 29, 31, 33, 35, 37, 39, 41 and 43.

15 72. The marker according to claim 71 to be used for diagnosis of Alzheimer's disease or epilepsy in brain.

73. The marker according to claim 71 to be used for diagnosis of cancer or inflammation of brain, prostate or testicle.

20 74. The marker according to claim 71 to be used for diagnosis of sterility in semen or sperms.

75. The marker according to claim 71 to be used for diagnosis of prostatic hypertrophy in prostate.

*ADDCH*